BEFORE THE BOARD OF ENVIRONMENTAL REVIEW
OF THE STATE OF MONTANA

In the matter of the adoption of new rules I through X pertaining to water use classifications and numeric nutrient standards; and the amendment of ARM 17.30.602 and 17.30.619 pertaining to definitions and incorporations by reference	NOTICE OF ADOPTION AND AMENDMENT (WATER QUALITY)

TO: All Concerned Persons

1. On April 11, 2002, the Board of Environmental Review published a notice of public hearing on the proposed amendment and adoption of the above-stated rules at page 1019, 2002 Montana Administrative Register, issue number 7.

2. The Board has amended ARM 17.30.602 and 17.30.619 exactly as proposed. The Board has adopted new rules I (17.30.615), II through IX (17.30.650 through 17.30.657) and X (17.30.631) as proposed, but with the following changes, stricken matter interlined, new matter underlined:

RULE I (17.30.615) WATER-USE CLASSIFICATIONS AND DESCRIPTIONS - CONSTRUCTED DITCHES, SEASONAL AND SEMI-PERMANENT LAKES AND EPHEMERAL STREAMS (1) The water-use classifications for waters in constructed irrigation ditches and drain ditches that ~~have return flows to~~ are state waters as defined in 75-5-103, MCA, and the water-use classification for waters in ephemeral streams and seasonal and semi-permanent lakes and ponds are as follows:

(a) remains as proposed.

(b) waters in constructed irrigation and drain ditches that contain controlled flows of surface water mixed with ground water ~~and are periodically de-watered~~. . D-2

(c) through (2) remain as proposed.

RULE II (17.30.650) D-1 CLASSIFICATION STANDARDS FOR CONSTRUCTED DITCHES, SEASONAL AND SEMI-PERMANENT LAKES AND EPHEMERAL STREAMS (1) remains as proposed.

(2) No person may violate the following specific water quality standards for waters classified D-1:

~~(a) the standards in WQB-7 for carcinogens and parameters with a bioconcentration factor greater than 300 apply;~~

~~(b)~~ (a) ~~the water quality shall be maintained of sufficient quality that all designated uses of any downstream receiving waters will~~ the designated uses of a receiving water body under a different classification must be fully maintained;

(c) remains as proposed, but is renumbered (b).

(3) remains as proposed.

RULE III (17.30.651) D-2 CLASSIFICATION STANDARDS

(1) remains as proposed.

(2) No person may violate the following specific water quality standards for waters classified D-2:

(a) remains as proposed.

~~(b) the standards in WQB-7 for carcinogens and parameters with a bioconcentration factor greater than 300 apply;~~

~~(c)~~ (b) ~~the water quality shall be maintained of sufficient quality that all designated uses of any downstream receiving waters will~~ the designated uses of a receiving water body under a different classification must be fully maintained;

(d) remains as proposed, but is renumbered (c).

(3) remains as proposed.

RULE IV (17.30.652) E-1 CLASSIFICATION STANDARDS

(1) remains as proposed.

(2) No person may violate the following specific water quality standards for waters classified E-1:

~~(a) the standards in WQB-7 for carcinogens and parameters with a bioconcentration factor greater than 300 apply;~~

~~(b) when the natural water quality exceeds the standards in WQB-7 identified in (2)(a), the natural water quality may not be made worse;~~

~~(c)~~ (a) ~~the water quality shall be maintained of sufficient quality that all designated uses of any downstream receiving waters will~~ the designated uses of a receiving water body under a different classification must be fully maintained;

(d) remains as proposed, but is renumbered (b).

(3) remains as proposed.

RULE V (17.30.653) E-2 CLASSIFICATION STANDARDS

(1) remains as proposed.

(2) No person may violate the following specific water quality standards for waters classified E-2:

(a) remains as proposed.

~~(b) the standards in WQB-7 for carcinogens and parameters with a bioconcentration factor greater than 300 apply;~~

~~(c) when the natural water quality exceeds the standards in WQB-7 identified in (2)(a) and (b), the natural water quality may not be made worse;~~

~~(d)~~ (b) ~~the water quality shall be maintained of sufficient quality that all designated uses of any downstream receiving waters will~~ the designated uses of a receiving water body under a different classification must be fully maintained;

(e) remains as proposed, but is renumbered (c).

(3) remains as proposed.

RULE VI (17.30.654) E-3 CLASSIFICATION STANDARDS

(1) remains as proposed.

(2) No person may violate the following specific water quality standards for waters classified E-3:

~~(a) the standards in WQB-7 for carcinogens and parameters with a bioconcentration factor greater than 300 apply;~~

~~(b) when the natural water quality exceeds the standards in WQB-7 identified in (2)(a), the natural water quality may not be made worse;~~

(c) remains as proposed, but is renumbered (a).

~~(d)~~ (b) ~~the water quality shall be maintained of sufficient quality that all designated uses of any downstream receiving waters will~~ the designated uses of a receiving water body under a different classification must be fully maintained;

(3) remains as proposed.

RULE VII (17.30.655) E-4 CLASSIFICATION STANDARDS

(1) remains as proposed.

(2) No person may violate the following specific water quality standards for waters classified E-4:

(a) the acute and chronic aquatic life standards in WQB-7 apply;

~~(b) the standards in WQB-7 for carcinogens and parameters with a bioconcentration factor greater than 300 apply;~~

~~(c) when the natural water quality exceeds the standards in WQB-7 identified in (2)(a) and (b), the natural water quality may not be made worse;~~

~~(d)~~ (b) ~~the water quality shall be maintained of sufficient quality that all designated uses of any downstream receiving waters~~ the designated uses of a receiving water body under a different classification will be fully maintained;

(e) remains as proposed, but is renumbered (c).

RULE VIII (17.30.656) E-5 CLASSIFICATION STANDARDS

(1) remains as proposed.

(2) No person may violate the following specific water quality standards for waters classified E-5:

~~(a) the standards in WQB-7 for carcinogens and parameters with a bioconcentration factor greater than 300 apply;~~

~~(b) when the natural water quality exceeds the standards in WQB-7 identified in (2)(a), the natural water quality may not be made worse;~~

~~(c)~~ (a) ~~the water quality shall be maintained of sufficient quality that all designated uses of any downstream receiving waters~~ the designated uses of a receiving water body under a different classification will be fully maintained;

(d) remains as proposed, but is renumbered (b).

(3) remains as proposed.

RULE IX (17.30.657) F-1 CLASSIFICATIONS STANDARDS

(1) remains as proposed.

(2) No person may violate the following specific water quality standards for waters classified F-1:

(a) remains as proposed.

~~(b) the standards in WQB-7 for carcinogens and parameters with a bioconcentration factor greater than 300 apply;~~

~~(c) when the natural water quality exceeds the standards in WQB-7 identified in (2)(a) and (b), the natural water quality may not be made worse;~~

~~(d)~~ (b) ~~the water quality shall be maintained of sufficient quality that all designated uses of any downstream receiving waters~~ the designated uses of a receiving water body under a different classification will be fully maintained;

(e) remains as proposed, but is renumbered (c).

(3) remains as proposed.

RULE X (17.30.631) NUMERIC ALGAL BIOMASS AND NUTRIENT STANDARDS (1) remains as proposed.

(2) The numeric nutrient and standing crop of benthic algae water quality standards for the mainstem Clark Fork River from below the Warm Springs Creek confluence (N46° 11' 17", W112° 46’ 03") to the confluence with the Flathead River (N47° 21' 45", W114° 46' 43") are as follows:

(a) In the mainstem Clark Fork River from below the Warm Springs Creek confluence (N46° 11' 17", W112° 46' 03") to the ~~Reserve Street Bridge in Missoula, MT (N46° 52' 52", W114° 02' 21")~~ confluence with the Blackfoot River (N46° 52' 19", W113° 53' 35") the numeric water quality standards for Total Nitrogen, Total Phosphorus, and benthic algal chlorophyll a, applicable from June 21 to September 21, are as follows:

(i) Parameter	Concentration
Total Phosphorus as P	20 µg/L
Total Nitrogen as N	300 µg/L

(ii) Parameter	Density
(Summer mean) - Benthic algal chlorophyll a	100 mg/square meter
(Maximum) - Benthic algal chlorophyll a	150 mg/square meter

(b) In the mainstem Clark Fork River from the ~~Reserve Street Bridge in Missoula, MT (N46° 52' 52", W114° 02' 21")~~ confluence with the Blackfoot River (N46° 52' 19", W113° 53' 35") to the confluence with the Flathead River (N47° 21' 45", W114° 46' 43") the numeric water quality standards for Total Nitrogen, Total Phosphorus, and benthic algal chlorophyll a, applicable from June 21 to September 21, are as follows:

(i) Parameter	Concentration
Total Phosphorus as P	39 µg/L
Total Nitrogen as N	300 µg/L

(ii) Parameter	Density
(Summer mean) - Benthic algal chlorophyll a	100 mg/square meter

(Maximum) - Benthic algal chlorophyll a	150 mg/square meter

3. The following comments were received and appear with the Board's responses:

COMMENT NO.1: Several Commentors recommended that the language in New Rules II through IX, stating that "the standards in WQB-7 for carcinogens and parameters with a bioconcentration factor greater than 300 apply" should be removed. These Commentors pointed out that the Department's statement in support of the rules made it clear that streams that are periodically de-watered and not suitable for drinking supplies should not be subject to the human health-based standards developed by the U.S. Environmental Protection Agency.

One Commentor pointed out that the numeric standards for carcinogens and bioconcentrating parameters listed in WQB-7 have not applied to ephemeral drainages and lakes in the past. This Commentor also stated that applying WQB-7 standards to ephemeral drainages and lakes is problematic due to naturally occurring carcinogens in soils or waters within these drainages and due to the use of pesticides and insecticides next to these drainages.

RESPONSE: The Board agrees with the comments and has deleted the language from the rules.

COMMENT NO. 2: The requirement in New Rules IV through IX stating that "when the natural water quality exceeds the standards in WQB-7 identified in 2(a), the natural water quality may not be made worse" should be removed because it is not clear how the requirement will be implemented and "natural water quality" is not defined. One Commentor asked whether naturally occurring ground waters pumped to the surface would be considered "naturally occurring"?

RESPONSE: The Board agrees that the language referring to "natural water quality" is confusing. Moreover, since the Board is deleting the language requiring compliance with the standards in WQB-7 for carcinogens and bioconcentrating parameters identified in 2(a), the prohibition against making water quality worse when natural water quality exceeds the standards in 2(a) will also be removed from the rules.

COMMENT NO. 3: Proposed New Rule I states that the new water-use classification system will apply to waters in constructed ditches and drain ditches that have "return flows to state waters." Accordingly, the proposed new rules for ditch classification expands the water-use classifications to every ditch in Montana, not only those which are designated "state waters" under § 75-5-103(29) MCA.

RESPONSE: The Board agrees that the term "return flows" may cause some confusion since it is not specifically included in the definition of "state waters" and may have the

appearance of broadening the statutory definition. For this reason, the term will be deleted from the rules.

COMMENT NO. 4: The requirement for a "use attainability analysis" (UAA) prior to re-classifying a particular stream is problematic for three reasons: (1) the Department does not have the resources to conduct a UAA for every ditch, pond, and coulee in Montana; (2) EPA's oversight of the UAA process will likely result in standards intended to protect a variety of uses of a ditch or pond never intended by the farmer or rancher, such as recreational use, fish, wildlife, and other uses; and (3) eliminating uses will create more controversy when preparing new lists of impaired waters.

RESPONSE: The Board acknowledges that EPA's requirement for a UAA prior to re-classifying a water body in order to eliminate a designated use may, in certain instances, be difficult, resource intensive, and controversial. Simply eliminating reference to the UAA requirement in the new rules, however, will not eliminate this federal requirement. Since the CWA requires EPA's approval of any revised water quality standard, including the elimination of use designations, the federal requirement for a UAA prior to eliminating a use will remain regardless of its inclusion or exclusion from the rules. Moreover, the alternative not to adopt the new rules conflicts with the Board's duty to adopt "an appropriate classification for streams that, due to sporadic flow, do not support an aquatic ecosystem that includes salmonid or nonsalmonid fish." See § 75-5-301(2)(a), MCA. For this reason, the Board is adopting the new classification system even though a UAA will be required prior to any particular stream, ditch, or pond being included under the classification system.

In order to address the problems identified by the comment, the Department intends to conduct UAAs only as needed to address a particular discharge permit. If a number of UAAs are needed, the Department intends to schedule and prioritize development of the UAAs giving consideration to its other responsibilities and the availability of resources.

COMMENT NO. 5: The reference to "dewatered" conditions in the proposed D-1 and D-2 classifications under New Rule I indicates that both ditches will be periodically dewatered during the year. Ditches that receive municipal discharges may never be completely dewatered during a given year. As such, the rules fail to provide a classification that will provide relief to municipal discharges on ditches that will always contain water but still do not support aquatic life. To resolve this problem, several Commentors recommended that Rule I be modified by removing the words "periodically de-watered" from the D-2 classification.

RESPONSE: The Board agrees and will delete the term from the D-2 classification. The results of the UAA will determine whether or not a particular ditch that is not periodically dewatered conforms to the limited uses under the D-2

classification. The UAA will also ensure that existing uses will be maintained.

COMMENT NO. 6: The requirement in New Rules II-IX that the water quality "shall be maintained of sufficient quality that all designated uses of any downstream receiving water will be fully maintained" is not clear. The language implies that the standards of the downstream water body will be applied to the water in the ditch.

RESPONSE: The quoted language was intended to ensure that the designated uses of a downstream water body are not impaired by discharges to a newly classified ditch or stream with standards that are less stringent than those downstream. In order to clarify the language, the Board will replace the quoted language with the following: "the designated uses of a receiving water body under a different classification will be fully maintained."

COMMENT NO. 7: Non-point source activities should not be regulated in an effort to address a point source discharge permitting concern.

RESPONSE: The proposed rules do not contain or imply any increased regulatory authority over non-point or point source discharges. The proposed rules only refine the existing use classification system to better reflect the actual uses (and standards to protect those uses) of ephemeral streams and ditches.

COMMENT NO. 8: How or would existing Montana Pollutant Discharge Elimination System (MPDES) permits be affected by the proposed new classifications?

RESPONSE: The adoption of the proposed new classifications will not automatically change the permit limits of any Montana Pollutant Discharge Elimination System permit. The new rule classifications only establish a "place holder" for a water body to be listed after a UAA is conducted and after the Board adopts a rule that places the water body under the new classification. Once a particular water body is placed under a new classification through future rule adoption, then an MPDES permit holder on that stream will be subject to less stringent standards than currently used to establish permit limits.

COMMENT NO. 9: Modify the proposed rules to allow the specific water quality standards to be set based on the results of the use attainability analysis and site-specific conditions of each water body or by the discharger. To provide for site-specific standards, the following language was recommended for New Rules II through IX: "(4) Notwithstanding the water quality requirements of (2), acute aquatic life standards specific to a water body may be adopted that are consistent with the use attainabilty of the water body, the requirement that the water quality be maintained of sufficient quality that all designated uses of any downsteam

receiving water will be fully maintained, and water body-specific aquatic life."

RESPONSE: The Board disagrees that site-specific standards may be developed based upon the results of a UAA. The UAA is a scientific study demonstrating a water body's natural ability to support certain uses and not support other uses. It is not a method to develop site-specific standards or criteria to protect those uses. The mechanism to establish site-specific standards for aquatic life is provided in § 75-5-310 MCA. Under the statute, any water quality standard for aquatic life that is different than recommended by EPA must be developed in accordance with federal regulations and guidelines applicable to developing site-specific criteria. In contrast, the proposed rules establish new classifications with fewer designated uses than currently apply and set the standards necessary to protect those uses based upon criteria recommended by the EPA.

COMMENT NO. 10: The designated use for secondary contact recreation for the proposed ditch classifications should be removed because recreation in a ditch may be dangerous or prohibited by the owners or operators of the ditch.

RESPONSE: Recreation in a ditch may be hazardous and prohibited by the owner of the ditch, but that does not prevent persons, such as children, from actually using the ditch for such purposes. As such, rules implementing the federal Clean Water Act require states to designate the basic "fishable and swimmable" uses for all waters and adopt criteria to protect those uses, unless through the UAA process it is found that the use has not occurred and cannot be attained.

Under Montana’s existing classification system, all ditches that meet the definition of "state waters" are designated suitable for primary contact recreation, such as swimming and bathing, and are protected by fecal coliform bacteria standards recommended by EPA. Under the new rules, a ditch may be re-classified as suitable for limited recreation (i.e., "secondary contact recreation"), such as wading and boating, and the fecal coliform limits will be less stringent than those currently used for primary contact recreation.

COMMENT 11: The proposed classifications are not clear and are overly broad.

RESPONSE: The Board disagrees. The rules clearly describe each type of stream, ditch, or pond that may be re-classified and establishes specific sub-classifications for those waters. In addition, the new classifications are limited in their application since they can only be used when a specific water body is found to be originally "misclassified" under the current system (See § 75-5-302, MCA) and a UAA has been performed.

COMMENT NO. 12: The problem of lagoon wastewater treatment systems meeting ammonia standards could be addressed by other means similar to proposed New Rule X.

RESPONSE: The Board disagrees. Regardless of other means available to assist municipal systems, the Board is required by law to adopt classifications for low or sporadic flow water bodies, pursuant to § 75-5-301, MCA. New Rules I through IX fulfill this statutory obligation.

COMMENT NO. 13: The proposed New Rules should include intermittent streams and other water bodies.

RESPONSE:
Intermittent streams and other water bodies are included in the New Rules under the F-1 classification, provided that those water bodies are "streams with low or sporadic flow that because of natural hydro-geomorphic and hydrologic conditions, are not able to support fish." See New Rule I (1)(h).

COMMENT NO. 14: There are many unanswered questions about the use attainability analysis. How will it be implemented? How will UAAs be funded? What is meant by potential uses?

RESPONSE: Implementation of the UAA will be conducted on an "as needed" basis. For example, if a permittee on a de-watered ditch wishes to re-classify the ditch in order to obtain relief from certain permit requirements, a UAA will be conducted for that ditch. At this time, the Department does not know what the specific source of funding for UAAs will be.

The word "potential" in the definition of UAA refers to the level or degree that a use is supported or could support. For example, a publicly accessible steam with an established swimming beach has an established recreational use (primary contact) as opposed to an ephemeral stream that has a few pools that might be used for wading for a few days of the year (secondary contact).

COMMENT NO. 15: Rule III uses the term "aquatic life" which is subject to interpretation.

RESPONSE: "Aquatic life" refers to all of the animals and plants that live in the water including algae, insects, such as mayflies or caddis flies, and fish, such as trout or minnows. The term has been used in the State's water quality standards for over two decades.

COMMENT NO. 16: Rules III, IV, and others appear to raise the fecal coliform standard from 200 per 100 ml to 1000 per 100 ml.

RESPONSE: The proposed rules relax the fecal coliform standard typically used to protect primary contact recreation uses, such as bathing and swimming, by substituting EPA's recommended fecal coliform standard for secondary contact recreation use, such as boating and wading. The new standards adopted for the protection of secondary contact recreation are 1000 organisms of the fecal coliform group per 100 ml.

COMMENT NO. 17: Rule IV and others refer to standards in WQB-7 with a bioconcentration factor greater than 300. Bio-accumulation is a concern, especially with carcinogens, and the factor of 300 needs to be reduced.

RESPONSE: The language referring to parameters with a bioconcentration factor greater than 300 has been removed from the rules, because the assumptions used by EPA in developing those standards do not apply to water bodies under the new classifications. See Response to Comment No. 1.

COMMENT NO. 18: What does the phrase, "When the natural water quality exceeds the standards in WQB-7" mean? Does "exceeds" mean "better than the standards" or "worse than the standards"?

RESPONSE: The Board agrees that the language is ambiguous and has removed the language from the rules. See Response to Comment No. 2.

COMMENT NO. 19: Will children playing in the water be protected?

RESPONSE: Yes. The water quality standards under the new classifications protect any use of the water for secondary recreational purposes.

COMMENT NO. 20: What is meant by "physical conditions"?

RESPONSE: The term "physical conditions" refers to the depth, width and sinuosity of a ditch or stream. These factors, in addition to substrate size, can limit the type of aquatic life community present in a ditch or stream.

COMMENT NO. 21: Rule VIII refers to wildlife. Many dead deer have been found downstream of the Missoula wastewater treatment plant. DEQ should interface with the Department of Agriculture and Fish, Wildlife, and Parks. The rule should refer more specifically to wildlife.

RESPONSE: The term "wildlife," similar to the terms used to describe other designated uses, is simply a short-hand way of describing the designated use of a water body. In this case, the term "wildlife" indicates that any water body placed under the new rule classifications will be protected for use by wildlife. The department does coordinate with Fish, Wildlife and Parks on water quality issues.

COMMENT NO. 22: The classification of ditches as D-1 and D-2 is arbitrary and should be based on agricultural uses only, not recreation which is actually prohibited by Mont. Code Ann. § 23-2-302, MCA

RESPONSE: The Board disagrees that § 23-2-302, MCA, prohibits the recreational use of water in all instances. Rather, the statute prohibits the recreational use of certain ditch waters enumerated under § 23-2-302(2), MCA, unless the landowner gives permission for such use. As such, the new classifications require that the water quality for all ditches classified under D-1 and D-2 is suitable for secondary contact

recreation, so that human health is protected should permission be granted for access under the statute.

COMMENT NO. 23: Several Commentors indicated that they support the adoption of New Rule X as proposed.

RESPONSE: Comment noted.

COMMENT NO. 24: Several Commentors support the adoption of the nutrient standards in New Rule X provided certain language is added to the rule. Specifically, they want language expressly stating that the signatories to the Voluntary Nutrient Reduction Program (VNRP) will have 10 years (beginning in August 1998) to comply with the nutrient values specified in the voluntary agreement even though New Rule X establishes nutrient standards that will be effective upon publication.

RESPONSE: The Board disagrees that such language is necessary. The nutrient values specified in the VNRP have been approved by EPA as a Total Maximum Daily Load (TMDL) for the Clark Fork and apply only to the signatories to the VNRP. When EPA approved the VNRP/ TMDL for these sources, EPA also approved the 10-year schedule provided in the VNRP for implementing the nutrient targets as part of the TMDL. For this reason, the Department and EPA consider the 10-year schedule for implementing the TMDL as a valid and appropriate regulatory basis that will be relied upon when re-issuing permits for the four signatories to the VNRP. Since the Department intends to rely upon the 10-year schedule approved by EPA as part of the VNRP/TMDL (until August 2008), there is no need to adopt the suggested language in these rules.

COMMENT NO. 25: The rule contains two proposed total Phosphorus (P) standards, 20 µg total P/L above the Reserve Street Bridge and 39 µg total P/L below the bridge. The bridge as a separation point is arbitrary and, in addition, the total P standard should be uniform throughout the river.

RESPONSE: The Board disagrees that the total P standard should be uniform throughout the river.

The values of 20 and 39 µg total P/L for the Upper and Middle Clark Fork, respectively, were developed based on studies in the Clark Fork River and other rivers. The value of 39 µg total P/L was drawn from the substantial study of Dodds and Smith (1995), later published as Dodds et al. (1997). They used a probabilistic approach and suggested that an appropriate instream total Phosphorus (P) concentration could be derived as a function of the instream total Nitrogen (N) concentration. Their work indicated that 317 µg total N/L would limit the summer algae standing crop to a mean of 100 mg Chl a/m^2 and a maximum of 150 mg Chl a/m^2, the same algae levels that are being proposed in New Rule X. In order to maintain the N: P ratio of 7:1 (by weight) that is typically found in algae, total P should be kept to 13% of the total N value. The proposed standard for total N in New Rule X is 300 µg/L (slightly more conservative than that suggested by Dodds

and Smith), and therefore the appropriate total P concentration would be 0.13 * 300 = 39 µg/L, the same as in New Rule X. It should be pointed out, however, that when using other approaches to determine the appropriate total P value, Dodds and Smith (1995) concluded that 30 µg total P/L might be more appropriate, given the variability in values generated from different methods.

The lower value of 20 µg/L TP in the Upper Clark Fork River is intended to maintain a high (N:P) ratio of 15:1 , given that the total N standard is 300 µg/L. Data suggest that a high N: P ratio in the Upper Clark Fork will help control the nuisance filamentous algae Cladophora, which dominates the upper river but which is less common in the Middle Clark Fork.

Even though there are uncertainties in the algae-nutrient relationship used to establish these standards, the new standards will be re-evaluated at least once every three years, as required by state law and the federal Clean Water Act. During the next triennial review (scheduled for 2004), the Department will review the appropriateness of these numeric nutrient standards along with the rest of its standards. Given the information cited above justifying different standards for total P, the Board is adopting the values for nutrient standards in the Upper and Middle Clark Fork River as proposed.

The Board agrees, however, that the location of the separation point for the two total P values (at the Reserve St. Bridge) is inappropriate. As such, the Board is amending the proposed rule to move the separation point further upstream to the confluence with the Blackfoot River for the following reasons:

1. There is a substantial decrease in the Clark Fork River's hardness (concentration of Calcium and Magnesium) due to inflows from Rock Creek and the Blackfoot River. The filamentous algae Cladophora prefers hard to very-hard water (Whitton 1970), whereas downstream of the Blackfoot River confluence the Clark Fork's water is typically moderately-hard or soft. This condition should in general discourage the growth of Cladophora.

2. A long-term study of the Upper Clark Fork's biota has been ongoing since 1989. The study has found that a station just downstream of the Blackfoot confluence and Milltown dam is something of a transition zone between the aquatic flora of the Upper Clark Fork and the aquatic flora of the Middle Clark Fork (Weber 2000, 2001).

3. It is more in keeping with the other hydrologic boundaries of the proposed rule (i.e., the upper and lowermost boundaries of the rule extend from the Clark Fork's Warm Springs Cr. confluence downstream to the Flathead River confluence).

COMMENT NO. 26: The applicable time period of the proposed standard in New Rule X, June 21st to September 21st, is arbitrary and capricious and should be set for the entire year.

RESPONSE: The Board disagrees that the time period in Rule X is inappropriate. The new standards in Rule X are designed to control nuisance algae, which usually grow during the summer months after spring runoff. By late September much of the river algae has begun to die and move downstream. Although algal growth occurs outside the summer period, its growth does not appear to be fast enough to pose a water-quality impairment during non-summer months. Further, early spring algal growth is frequently scoured off during spring runoff. Since the nutrient standards are intended to maintain algae below nuisance levels during the summer period, than the only remaining question might be is: What is the affect of year-round nutrient loads on downstream waterbodies? Lake Pend Oreille in Idaho is the waterbody downstream of the Clark Fork River, and receives most of its water from the Clark Fork. Fortunately, studies have already been completed to determine acceptable nutrient loads to the lake. As a result, maximum allowable N and P loads from the Clark Fork River have already been allocated to Montana in a signed Montana-Idaho border agreement. Under current conditions, Montana usually meets its load restriction requirements.

Because the numeric nutrient criteria will be implemented during the critical time period when nuisance algae proliferate and, just as importantly, the effects of nutrient loads on the downstream waterbody have been addressed, the Board is adopting the June 21st to September 21st time frame as proposed in New Rule X.

COMMENT NO. 27: An Environmental Impact Statement (EIS) was not undertaken prior to the proposal of New Rule X.

RESPONSE: An EIS is not required prior to adopting New Rule X, because establishing numeric water quality standards for nutrients is not a major state action significantly affecting the human environment. Specifically, adopting a numeric standard to replace the existing narrative standards currently used to regulate algal growth in surface water will not change the environment. Rather, the numeric standards will serve the same purpose as the existing narrative standards, which is to prevent undesirable aquatic life. Consequently, there will be no significant change to the environment resulting from the adoption of these rules.

COMMENT NO. 28: The title of New Rule X should be changed to "Numeric Algae Chlorophyll Standards" to reflect that the issue is impairment of the river by nuisance algae growth. Since the nutrient standards are included as a method of attaining the algal standards, the standards should be re-arranged in the rule so that the algal standard is listed first and the nutrient standard is listed second.

RESPONSE: The Board agrees that the title should reflect that the standards being adopted limit algae growth. The term "algae chlorophyll" suggested by the Commentor, however, is not broad enough to include other nutrient and algal standards that may be adopted in the future. Future standards that might be adopted could apply to the water column or be based on another measure of algae standing crop (Ash Free Dry Weight, for example). In order to keep the rule section title as general as needed, the Board is amending the title to read: "Rule X Numeric Algal Biomass and Nutrient Standards."

Although the Board agrees that the nutrient standards assist attaining the algal standards, the nutrient standards are as important as the biomass standards because both are necessary to control algae growth. Therefore, the Board declines to list the standards in any particular order since each numeric standard adopted now or in the future under New Rule X will be equally necessary to control algae growth.

COMMENT NO. 29: One Commentor asked that a note be added to Rule X stating that: "The nutrient standards listed herein are designed to result in compliance with the underlying Algal Standards. Further monitoring of algae and nutrients and development of better correlation between nutrients and algal levels may result in needed refinement of the nutient standards to ensure compliance with the algal standard."

RESPONSE: The Board disagrees that an explanatory note in Rule X discussing what the standards are designed to achieve in terms of restricting algal growth is necessary. The explanation for why numeric water quality standards are being adopted to restrict undesirable aquatic life was given in the notice of hearing for these rules. Upon adoption, the standards will be used as a regulatory basis for establishing limits in MPDES permits without further need of their underlying purpose.

The Board also disagrees that language should be added to ensure that further monitoring and review of the nutrient and algal standards will occur. The State is already required under both state and federal law to review its water quality standards every three years and to revise those standards as necessary. Consequently, no similar requirement need be adopted in these rules.

COMMENT NO. 30: Adoption of New Rule X would bring about takings and damages to the citizens of Montana.

RESPONSE: The Department's legal staff has completed a "takings" review and concluded that the proposed rule making does not have taking or damage implications. The Board agrees with that conclusion.

Reviewed by: BOARD OF ENVIRONMENTAL REVIEW

_____ By: _____
JAMES M. MADDEN JOSEPH W. RUSSELL, M.P.H.
Rule Reviewer Chairman

Certified to the Secretary of State _____, 2002.